

## Preliminary report on glass hydration experiments for viscosity measurements of hydrous silicate melts

# Akio Goto[1]

[1] CNEAS

For viscosity measurement of hydrous volcanic silicate melts by fiber elongation method, I have started hydration experiments. The starting materials were essential ejecta by Tokachi-dake 1988-1989 eruptions and the 3rd lobe lava by Unzen 1990-1995 eruptions. They were powdered, molten at 1400-1600deg.C, and manufactured into fiber shape glasses with diameter 0.5-0.8mm. The samples were set into an autoclave with pure water under the condition:

Tokachi A:360deg.C, 200kPa, 100 hr

Tokachi B:360deg.C, 60kPa, 172 hr

Unzen A:350deg.C, 10kPa, 12 hr

Unzen B:400deg.C, 300kPa, 12 hr

Hydrous layer was detected in Unzen B only (0.1mm thick). Tokachi A suffered dissolution to 0.08mm deep, but did not have the hydrous layer on its newly exposed surface. Another two samples did not show remarkable changes.